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| 10/784,346 | 02/23/2004 | Josh Eckels | ORACL-01436US2 | 2353 |
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| Fliesler Meyer LLP 650 California Street 14th Floor San Francisco, CA 94108 | | | EXAMINER DAO, THUY CHAN | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/784,346 | Applicant(s) ECKELS ET AL. | |
| | Examiner Thuy Dao | Art Unit 2192 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. .
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u> </u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u> </u> . | 6) <input type="checkbox"/> Other: <u> </u> . |

DETAILED ACTION

1. This action is responsive to the amendment filed on August 8, 2008.
2. Claims 1-33 have been examined.

Response to Amendments

3. In the instant amendment, claims 1, 4, 7, 1, 12, 13, 18, 20-23, 28, and 30-34 have been amended.
4. The objection to claims 7 and 11 is withdrawn in view of Applicant's amendments.

Claim Objections

5. Claim 10 is objected to because of minor informality. Because all other locations now have been amended to recite "server page", the term in lines 2 and 3 is considered to read as - [[JSP]] server page- -.

Appropriate correction is requested.

Response to Arguments

6. Applicants' arguments have been considered but are not persuasive.

Applicants explained the claim amendments and further directed to paragraph [0005] in the originally filed disclosure (Remarks, page 9, last paragraph).

The examiner respectfully disagrees with Applicants' assertions regarding the reference Spencer. The ground of rejection has been conducted in light of the specification of the instant application and specifically based on the subject matter defined in said paragraph [0005]:

"[0005] Many software programs contain complex data structures, and software developers rely on predefined libraries data structures (e.g. classes), or create their own libraries. In these cases, when a developer encounters a debugging problem in executing a software program, they are sometimes more interested in investigating the abstract contents of the data structures, i.e., the attributes of their interests during the execution of the software program, rather than the physical structures used to represent the

abstract contents. Unfortunately, existing debugging systems or "debuggers" often present developers with internal details of these structures, which makes it difficult to determine the abstract contents of actual interest. For example, the developer might use a data structure called a List to represent an ordered collection of items on an invoice. In the debugger, the developer might wish to see the list of items and their attributes (e.g., quantity, price, description). However, internally the List data structure is implemented as a linked list of nodes. Therefore, in order to understand or monitor the contents of the List using a prior art debugger, the developer has to follow a long series of pointers between nodes and examine variables names along the way, such as nodeptr and nextptr that have little to do with the list of invoice items the developer wants to monitor" (emphasis added).

| Limitations defined claim 1 in light of the specification, [0005] | Spencer |
|---|--|
| <i>"one data structure" such as "List"</i> | a data structure such as "ListViewItem" in FIG. 4 |
| <i>instance of the data structure such as "invoice"</i> | "lvi" as an instance of the data structure "ListViewItem", FIG. 4 |
| <i>"abstract content" of the data structure such as attributes of "List"/instance "invoice" (invoice items, quantity, price, description)</i> | abstract content, i.e., attributes of "ListViewItem"/instance "lvi" such as values "x1=100, y1", "False", ".1" of variables "bounds", "Checks", "Index", respectively – FIG. 4, popup window 312 |
| <i>underlying physical data structures (such as a linked list of nodes) used to represent the abstract contents</i> | underlying physical data structures (such as integers, Boolean, float) used to represent abstract contents/attributes such as "bounds", "Checked", "Index", respectively. |

Spencer explicitly teaches:

the underlying physical data structures (e.g., FIG. 4, code window 430, popup window 312, data structure "ListViewItem" has underlying physical data

structures such as integers, Boolean, float for variables "bounds", "Checked", "Index", respectively)

contents of interest from the underlying physical data structures (e.g., "bounds = [x1 =100, y1]", "Checked = False", "Index = .1")

at least one filter capable of extracting the contents of interest from the underlying physical data structures (e.g., also FIG. 4, popup 312, extracting the contents of interest and displaying "bounds = [x1 =100, y1]", "Checked = False", "Index = .1" from the underlying physical data structures integers, Boolean, float, respectively) and

and formatting the contents of interest from the underlying physical data structures (e.g., FIG. 4, popup window 314, selecting/formatting variables "BackColor" as "ActiveBorder", "ActiveCaption", ...).

In conclusion, the examiner respectfully maintains ground of the 35 USC §102 and §103 rejections.

Claim Rejections – 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 8-9, 13-17, 19, 23-27, 29, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Spencer (art of record, US Patent Publication No. 2005/0278585 A1).

Claim 1:

Spencer discloses *a computer-enabled system embodied in a storage medium to provide a software debugging environment, comprising:*

an executing software program containing at least one data structure (e.g., FIG. 4, Code Window 340, program code containing at least one data structure such as "Dim i As Integer" and "Dim lvi As ListViewItem");

at least one abstract view capable of displaying and/or editing at least one abstract content of the at least one data structure (e.g., FIG. 4, abstract views as Locals Window 320, [0044], Autos Window 310, [0043]; FIG. 3, [0040-0045]);

wherein the abstract content of the at least one data structure constitutes attributes of interest (e.g., [0043], attributes of interest such as names, values, expressions; names and values of variables/objects in scope for the current position of a instruction pointer, i.e., the instruction cursor in the GUI)

during the execution of the executing software program (e.g., [0027]); and rather than underlying physical data structures used to represent the abstract content (e.g., FIG. 4, Locals Window 320 does not display the underlying physical data structures of data structure "Integer" of the instance "i"; Autos Window 310 does not display the underlying physical data structures of data structure "ListViewItem" of the instance "lvi"); and

the underlying physical data structures (e.g., FIG. 4, code window 430, popup window 312, data structure "ListViewItem" has underlying physical data structures such as integers, Boolean, float for variables "bounds", "Checked", "Index", respectively)

contents of interest from the underlying physical data structures (e.g., "bounds = [x1 =100, y1]", "Checked = False", "Index = .1")

at least one filter capable of extracting the contents of interest from the underlying physical data structures (e.g., also FIG. 4, popup 312, extracting the contents of interest and displaying "bounds = [x1 =100, y1]", "Checked = False", "Index

= .1" from the underlying physical data structures integers, Boolean, float, respectively)
and

and formatting the contents of interest from the underlying physical data structures (e.g., FIG. 4, popup window 314, selecting/formatting variables "Backcolor" as "ActiveBorder", "ActiveCaption", ...) and

defining a displaying and/or editing property of the at least one abstract view (e.g., FIG. 4, Pop-ups 312 and 314, [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited. (e.g., FIG. 4, abstract views such as Locals Window 320, Autos Window 310:

expanding a variable/object to see sub-members, [0047];

members of a variable/object may be hidden/un-visible, [0048];

if item expandable → subsequent window(s) popped up and if item un-expandable → editable in textual format, [0048];

displaying in either graphical visuals or textual format, [0049]).

Claim 2:

The rejection of claim 1 is incorporated. Spencer also discloses *the system is at least partially implemented using Java language (e.g., [0021], [0037]).*

Claim 3:

The rejection of claim 1 is incorporated. Spencer also discloses *at least one editor associated with the at least one abstract view capable of at least one of: allowing the at least one abstract content to be modified through the at least one abstract view; and validating an input value to the at least one abstract content against an allowed value for the at least one abstract content (e.g., [0045]).*

Claim 4:

The rejection of claim 1 is incorporated. Spencer also discloses *the at least one abstract view is capable of presenting the at least one abstract content of the at least one data structure without showing a physical implementation of the at least one data structure* (e.g., [0043-0045]).

Claim 5:

The rejection of claim 1 is incorporated. Spencer also discloses *each of the at least one abstract view can be individually selected for display* (e.g., [0041-0042]).

Claim 6:

The rejection of claim 1 is incorporated. Spencer also discloses *two or more of the at least one abstract view are capable of displaying and/or editing the same one of the at least one abstract content without being deadlocked* (e.g., [0040]).

Claim 8:

The rejection of claim 1 is incorporated. Spencer also discloses *a component capable of interactively performing at least one of: selecting a subset of the at least one of abstract view for display; and defining the displaying and/or editing property of the at least one filter* (e.g., [0043-0045]).

Claim 9:

The rejection of claim 8 is incorporated. Spencer also discloses *the component can be realized via an interface to an Integrated Development Environment IDE* (e.g., 0005-0008]).

Claims 13-17 and 19:

Claims 13-17 and 19 are method versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or

set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 13-17 and 19.

Claims 23-27 and 29:

Claims 13-27 and 29 are machine readable medium versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 23-27 and 29.

Claim 33:

Spencer discloses *a computer-enabled system embodied in a storage medium to provide a software debugging environment, comprising:*

means for displaying and/or editing at least one abstract content of at least one data structure in an executing software program (e.g., FIG. 4, Code Window 340, program code and at least one data structure, [0047] and [0027])

via at least one abstract view (e.g., FIG. 4, Locals Window 320, Autos Window 310, [0043]);

wherein the abstract content of the at least one data structure constitutes attributes of interest (e.g., [0043], attributes of interest such as names, values, expressions of variables/objects)

during the execution of the executing software program (e.g., [0027] and [0047])

rather than underlying physical data structures used to represent the abstract content (e.g., FIG. 4, Locals Window 320 does not display the physical structures of data structure "Integer" of the instance "i"; Autos Window 310 does not display the physical structures of data structure "ListViewItem" of the instance "lvi"); and

means for extracting and formatting the contents of interest from the underlying physical data structures (e.g., FIG. 4, popup windows 312 and 214) and

defining a displaying and/or editing property of the at least one abstract view via at least one filter (e.g., FIG. 4, Pop-ups 312 and 314, [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited (e.g., FIG. 4, abstract views such as Locals Window 320, Autos Window 310:

expanding a variable/object to see sub-members, [0047];

members of a variable/object may be hidden/un-visible, [0048];

if item expandable → subsequent window(s) popped up and if item un-expandable → editable in textual format, [0048];

displaying in either graphical visuals or textual format, [0049]).

Claim Rejections – 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7, 10-12, 18, 20-22, 28, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer in view of Charisius (art of record, US Patent No. 7,051,316 B2).

Claim 7:

The rejection of claim 1 is incorporated. Spencer does not explicitly disclose *the at least one filter can be defined via configuration information stored in a file, which can be an XML file.*

However, in an analogous art, Charisius further discloses *the at least one filter can be defined via configuration information stored in a file, which can be a file in a markup language* (e.g., FIG. 51-52, col.42: 10-23; col.44: 15-41).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to provide an improved software development tool that crates a graphical representation of source code regardless of the programming language in which the code is written as suggested by Charisius (e.g., col.11: 4-11 and 29-38; col.38: 28-61).

Claim 10:

The rejection of claim 1 is incorporated. Charisius further discloses *at least one component capable of supporting the debugging of a JSP page and a machine generated servlet that implements the JSP page* (e.g., FIG. 49, col.38; 44-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claim 11:

The rejection of claim 10 is incorporated. Charisius further discloses *the at least one component can perform at least one of: extracting and displaying a code and/or a content of interest, and mapping them to a format used in a source code in a JSP page, for use with executing a JSP servlet; following an execution path through at least one level of redirection using at least one tag; extracting and manipulating a streaming data from a content of a buffer used to transmit and receive the streaming data; and setting at least one break point in a JSP page and stepping through the execution of the page based on the displaying property* (e.g., col.39: 1-54).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claim 12:

The rejection of claim 11 is incorporated. Charisius further discloses *the streaming data can be extracted by inserting a wrapper or "writer" class around the servlet* (e.g., col.40: 31-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claims 18 and 20-22:

Claims 18 and 20-22 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 18 and 20-22.

Claims 28 and 30-32:

Claims 28 and 30-32 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 28 and 30-32.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

ListViewItem Class from Microsoft.NET Framework Class Library discloses:

page 1, Visual Basic usage such as “Dim instance As ListViewItem”, which is equivalent to “Dim lvi As ListViewItem” in Spencer, FIG. 4, code window 340. That is to say, “lvi” is an instance of data structure “ListViewItem”;

page 10, “BackColor” as an attribute/abstract content of data structure “ListViewItem”, which is displayed in Spencer, FIG. 4, popup window 312; and

also in pages 10-11, “Bounds”, “Checked”, “Index” as other attributes/abstract contents of data structure “ListViewItem”, which is displayed in Spencer, FIG. 4, popup window 312.

12. Applicants’ amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192